BIRCH REDUCTION

- It is a reaction by which alkynes are converted into alkenes in presence of birch reagent's
- Birch reagent's are- Na/Li and aqueous solution of NH_3

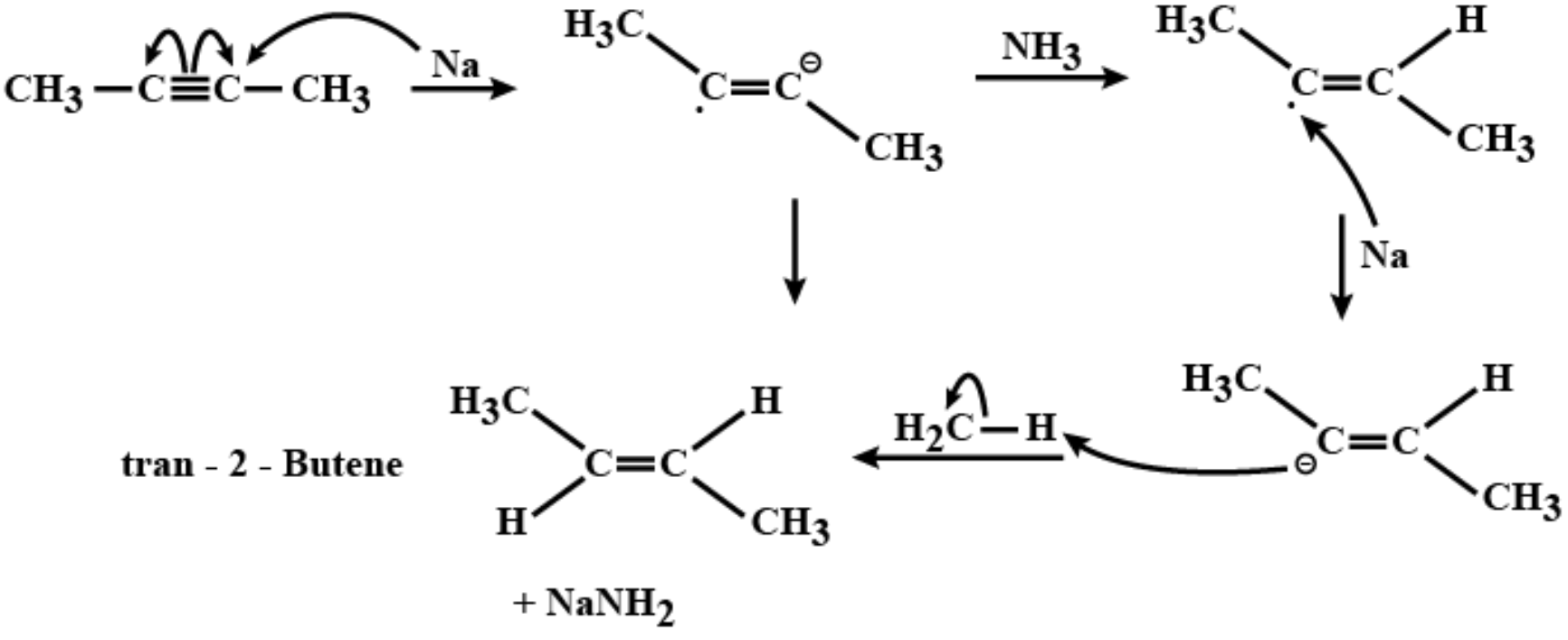
2 - Butyne Birch Reduction tran - 2 - Butene

WHY TRANS ALKENE?

- Because free radical and negative charge stay on opposite side to maintain stability. So final product obtained is trans alkene

DEPTH OF BIOLOGY

- Electron from Na attacks the triple bond because it has sp hybridization [which is highly electronegative]
- A carbon free radical and a negatively charged carbon atom develops
- H^+ attacks C^- and gets attached to it
- Electron from Na again attacks to stabilize the carbon free radical and trans alkene is obtained


CH3 — C ≡ C — CH3
Na
H3C
C = C
CH3
NH3
H3C
H
C = C
CH3
Na
H3C
H
C = C
CH3
H2C — H
H3C
H
C = C
H
CH3
tran - 2 - Butene
+ NaNH2